

## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

REC'D 24 AUG 2004

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| Applicant's or agent's file reference<br>6010195-PCT  | <b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416) |  |
| International application No.<br><b>PCT/KR2003/000850</b>   | International filing date (day/month/year)<br><b>25 APRIL 2003 (25.04.2003)</b>   | Priority date (day/month/year)<br>26 APRIL 2002 (26.04.2002) |
| International Patent Classification (IPC) or national classification and IPC<br><br><b>IPC7 B62D 6/10</b> |   |  |
| Applicant<br><br><b>MECCA TECH CO., LTD et al</b>   |   |  |

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.



2. This REPORT consists of a total of 6 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of \_\_\_\_\_ sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☒ Certain defects in the international application
- VIII ☒ Certain observations on the international application

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|--|---|
| Date of submission of the demand<br><br>17 NOVEMBER 2003 (17.11.2003)  | Date of completion of this report<br><br>17 AUGUST 2004 (17.08.2004)  |
| Name and mailing address of the IPEA/KR<br> Korean Intellectual Property Office<br>920 Dunsan-dong, Seo-gu, Daejeon 302-701,<br>Republic of Korea<br>Facsimile No. 82-42-472-7140 | Authorized officer<br><br>KIM, Jin<br><br>Telephone No. 82-42-481-5435 |

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/KR2003/000850

## I. Basis of the report

## 1. With regard to the elements of the international application:\*

- ☒ the international application as originally filed
- ☐ the description:  
pages \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☐ the claims:  
pages \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, as amended (together with any statement) under Article 19  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☐ the drawings:  
pages \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☐ the sequence listing part of the description:  
pages \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

## 2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language \_\_\_\_\_ which is

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

## 3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheet \_\_\_\_\_

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\*

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed." and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item I and annexed to this report.

## INTERNATIONAL PRELIMINARY EXAMINATION

International application No.

PCT/KR2003/000850

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement****1. Statement**

|                               |            |     |
|-------------------------------|------------|-----|
| Novelty (N)                   | Claims 1-5 | YES |
|                               | Claims     | NO  |
| Inventive step (IS)           | Claims 1-5 | YES |
|                               | Claims     | NO  |
| Industrial applicability (IA) | Claims 1-5 | YES |
|                               | Claims     | NO  |

**2. Citations and explanations (Rule 70.7)**

The following documents are referred to:

D1: WO 99/40388 (LASERSCORE INC.)  
D2: US 6330522 (TOKAI RIKI DENKI SEISAKUSHO)  
D3: JP 01-116423 (KOYO SEIKO CORP.)  
D4: JP 63-284442 (KOYO DENSHI KOGYO)  
D5: JP 14-090236 (HITACHI CABLE LTD.)

**1. Novelty**

D1 discloses a detecting apparatus comprising a rotating arm, a transmitter, a receiver, a position sensor, and a processor. The transmitter outputs a detection beam which overlaps the field as a result of an object in the field. The receiver detects the changes which occur in the field and the processor produces angular displacement data corresponding to the output signals from the receiver.

D2 discloses a rotational angle detector comprising outer and inner slits formed on a rotor, and sensors which detect the presence or absence of the slits and generate reflective codes. The reflective code is used to determine the rotational angle by matching stored pattern data.

D3 discloses a torque detector comprising a light emitting part on a shaft, reflecting surfaces, and light detection parts on a cylindrical body. Corresponding to the distortion of a torsion bar, the light detection parts detect the light emitted from the reflecting surfaces and convert the detected light into electronic signals.

D4 discloses a torque detector comprising slit holes on input and output shafts, a light receiving element, and a light emitting element. The dislocation between slit holes changes the passing area of the light receiving element, which is detected as changes of input torque.

D5 discloses a torque detector comprising light-projected parts on both shafts, light transmitting parts on a torsion bar, an optical sensor, and a light receiving part. By sensing the light transmitted between the light transmitting parts, the rotational changes of the torsion bar are detected by the optical sensor.

In view of the prior art, the subject-matter of claims 1-5 appear to be novel in the sense of Article 33(2) PCT.

(Continued on Supplemental Sheet.)

**INTERNATIONAL PRELIMINARY EXAMINATION**

International application No.

PCT/KR2003/000850

**VII. Certain defects in the international application**

The following defects in the form or contents of the international application have been noted:

The features of the claims are not provided with reference signs placed in parentheses (Rule 6.2(b) PCT).

# INTERNATIOAL PRELIMINARY EXAMINATION REPORT

International aplication No.

PCT/KR2003/000850

## VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

1. The term "output haft" used in claim 1 is vague, contrary to the requirements of Article 6 PCT.
2. The term "through hoes" used in claim 3 is vague, contrary to the requirements of Article 6 PCT. In other words, it is not clear whether said term means "through holes" or "through hoes" (a hoe is a tool with a flat blade attached to a long handle).

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/KR2003/000850

## Supplemental Box

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of:

Box V.

### 2. Inventive step

D3 is considered the closest prior art in that the reflecting surfaces are applied to detect the light emitted from a shaft. The difference between the present application and D3 is that a torque detector in D3 does not have a light emitting part and light detection parts on the same shaft or flange. A skilled person would have not found an incentive in D3 to modify the features of a light emitting part and light detection parts.

Thus, the subject-matter of claims 1-5 involve an inventive step in the sense of Article 33(3) PCT.